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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/692,900

10/24/2003

Guo-Xin Jin

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8713

23455 7590 01/04/2007  
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EXAMINER

KLEMANSKI, HELENE G

ART UNIT

PAPER NUMBER

1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

8

<b>Office Action Summary</b>	<b>Application No.</b> 10/692,900	<b>Applicant(s)</b> JIN ET AL.	
	<b>Examiner</b> Helene Klemanski	<b>Art Unit</b> 1755	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Upon further consideration, the previous restriction in the Office Action dated June 15, 2006 has been withdrawn. Hence, claims 1-22 are pending in the application.

***Response to Amendment***

2. Claims 1-11, 13, 15-17 and 21 have been amended, none of the claims have been deleted and no new claims have been added. Hence, claims 1-22 are pending in the application.
3. The objection to the abstract of the disclosure as set forth in the previous Office Action dated June 15, 2006 has been overcome and is now withdrawn.
4. The 112, first paragraph rejection to the claims as set forth in the previous Office Action dated June 15, 2006 has been overcome by applicant's arguments and is now withdrawn.
5. The objections to the claims as set forth in the previous Office Action dated June 15, 2006 has been overcome by applicant's amendments and are now withdrawn.
6. The 112, second paragraph, rejections with respect to claims 2, 3 and 7 as set forth in the previous Office Action dated June 15, 2006 have been overcome by applicant's amendments and are now withdrawn. The 112, second paragraph, rejection with respect to claims 6 and 15 is being maintained since there were no amendments to these claims. See the 112, second paragraph, rejection below.

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7. The 102(b) and 103(a) rejections over CN 1306012A (i.e. Liu) as set forth in the previous Office Action dated June 15, 2006 have been overcome by applicant's amendments and are now withdrawn. New 102(a) rejections are entered below.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 6 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 6 and 15, the phrase "selected from" is considered indefinite since this is improper Markush language. It is the examiner's position that other materials could be present in the Markush group that were not intended by applicants by the use of the phrase "selected from" since this phrase does not exclude other materials. The examiner suggests the language "selected from the group consisting of" in place of this phrase.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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11. Claims 1-8 and 10-22 are rejected under 35 U.S.C. 102(a) as being anticipated by the article "Polymer-Incorporated Iron Catalysts for Ethylene Polymerization (hereafter referred to as Liu et al.).

Liu et al. teach a method for making polystyrene-incorporated iron catalyst comprising combining a catalyst precursor of the formula as claimed by applicants containing two allyl groups on the phenyl ring, a styrene monomer in the presence of a free radical initiator such as AIBN (i.e. 2,2'-azobis (2-methylpropanenitrile)). Liu et al. further teach a method for polymerizing olefins such as ethylene by contacting the olefin with the above polystyrene-incorporated iron catalyst and a co-catalyst such as MMAO (i.e. modified methylalumoxane). See the introduction section, sections 2.4.3-2.5 and schemes 2 and 3. The method for making polystyrene-incorporated iron catalyst and the method for polymerizing olefins as taught by Liu et al. appears to anticipate the present claims.

12. Claims 1-8 and 10-22 are rejected under 35 U.S.C. 102(a) as being anticipated by CN 1352204A (hereafter referred to as Jin et al.).

Jin et al. teach a method for making polymerized catalyst with dual activity centers comprising combining a catalyst precursor of the formula as claimed by applicants containing at least one allyl group on the phenyl ring, a styrene monomer in the presence of a free radical initiator such as azobisisobutyrenitrile. Jin et al. further teach a method for polymerizing olefins such as ethylene by contacting the olefin with the above polymerized catalyst and a co-catalyst such as MAO (i.e. methylalumoxane) or MMAO (i.e. modified methylalumoxane). See the abstract, claims 1-3, pages 7, 8

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and 10 and examples 7-9 and 13-19 of the English translation (copy provided by applicants). The method for making polymerized catalyst and the method for polymerizing olefins as taught by Jin et al. appears to anticipate the present claims.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the article "Polymer-Incorporated Iron Catalysts for Ethylene Polymerization (hereafter referred to as Liu et al.) or CN 1352204A (hereafter referred to as Jin et al.).

Liu et al. and Jin et al. are cited and relied upon for the above stated reasons. Liu et al. and Jin et al. lack disclosure of the two abstractable ligands forming one metallacycle ring with the transition metal as claimed by applicants.

However, such ligands are conventional in the field of transition metal olefin polymerization catalysts since the hydrocarbyl versions can undergo deinsertion reactions with the transition metal, thus opening up a coordination site for an olefin to begin the olefin polymerization process.

Therefore, it would have been obvious to one of ordinary skill in the art to apply that skill to the disclosures of Liu et al. or Jin et al. with a reasonable expectation of

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obtaining a highly useful olefin polymerization precatalyst with the expected benefit of the precatalyst being easily activatable.

### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

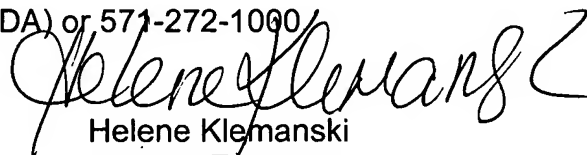
The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Helene Klemanski  
Primary Examiner  
Art Unit 1755



December 28, 2006